CLAIM AMENDMENT

Pursuant to the Examiner's request, Applicants submit a final version of the claims, below. No further amendment is submitted.

1. (Previously Presented) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into naphthalene, monoalkylnaphthalene, and dialkylnaphthalene fractions:

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthlene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

III. alkylating said monoalkylnaphthalene fraction of step I with an alkylating agent to produce dialkylnaphthalene and recycling the dialkylnaphthalene to step I;

IV. transalkylating said naphthalene fraction of step I and said second dialkylnaphthalene fraction produced in step II, to produce monoalkylnaphthalene, and isomers of dialkylnaphthalene;

wherein said monoalkylnaphthalene fraction produced in step I is cracked before step III, or in step III, or after step III.

2. (Original) The process of claim 1, wherein at least one of said monoalkylnaphthalene, and isomers of dialkylnaphthalene produced in step IV is recycled to step I.

3. (Previously Presented) The process of claim 2, further comprising cracking of said second dialkylnaphthalene fraction of step I and said naphthalene fraction of step I before step IV, or in step IV, or after step IV.

4. (Original) The process of claim 1, wherein at least a portion of said naphthalene fraction in step I is fed to step III to be alkylated with said alkylating agent.

5. (Original) The process of claim 1, wherein at least step III or step IV is conducted in the presence of a catalyst composition comprising a synthetic zeolite.

6. (Original) The process of claim 5, wherein the catalyst having a composition comprising a synthetic zeolite is characterized by an X-ray diffraction pattern including interplanar d-spacing (A)
12.36.+-.0.4
11.03.+-.0.2
8.83.+-.0.14
6.18.+-.0.12
6.00.+-.0.10
4.06.+-.0.07
3.91.+-.0.07
3.42.+-.0.06.

7. (Original) The process of claim 1, further comprising (i) separating said dialkylnaphthalene fraction from step I into 2,6-rich-dialkylnaphthalene and 2,6-lean-dialkylnaphthalene fractions, wherein said 2,6-rich-dialkylnaphthalene fraction is utilized in separating and purifying 2,6-dialkylnaphthalene in step II.

8. (Original) The process of claim 7, further comprising isomerizing said 2,6-lean-dialkylnaphthalene fraction in the presence of a catalyst, wherein the product in said isomerization is fed to step II and/or step I.

9. (Previously Presented) The process of claim 8, further comprising cracking of co-boiler of dialkylnaphthalene at said 2,6-lean-dialkylnaphthalene stream before isomerization, or with the isomerization, or after isomerization and before step I.

10. (Original) The process of claim 8, wherein at least a part of the product in said isomerization is separated into a 2,6-rich-dialkylnaphthalene fraction and other components, and said 2,6-rich-dialkylnaphthalene fraction is fed to step II.

11. (Original) The process of claim 8, wherein the isomerization is conducted in the presence of a catalyst composition comprising a synthetic zeolite.

12. (Original) The process of claim 8, wherein the catalyst having a composition comprising a synthetic zeolite is characterized by an X-ray diffraction pattern including interplanar d-spacing (A)
12.36.+-.0.4
11.03.+-.0.2
8.83.+-.0.14
6.18.+-.0.12
6.00.+-.0.10
4.06.+-.0.07
3.91.+-.0.07
3.42.+-.0.06.

13. (Original) The process of claim 1, wherein at least a part of the feedstock or at least a part of said monoalkylnaphthalene fraction produced in step I is dealkylated, then recycled to step I.

14. (Previously Presented) The process of claim 10, wherein at least a part of the other components containing alkylnaphthalene having a higher boiling point

than naphthalenes in the separation after the isomerization are dealkylated, then recycled to step I.

15. (Previously Presented) The process of claim 1, wherein a part of said dialkylnaphthalene fraction after 2,6-dialkylnaphthalene is separated therefrom in step II are dealkylated, then recycled to step I.

16. (Original) The process of claim 1, wherein separation in step I is conducted by distillation, or distillation and extraction.

17. (Original) The process of claim 1, wherein 2,6-dialkylnaphthalene is separated by crystallization under high pressure in step II.

18. (Original) The process of claim 1, wherein said dialkylnaphthalene is dimethylnaphthalene and said monoalkylnaphthalene is monomethylnaphthalene.

19. (Original) The process of claim 1, wherein said alkylating agent is methanol or dimethylether.

20. (Previously Presented) A process of preparing a polyethylenenaphthalate polymer or polybutylenenaphthalate polymer comprising;

A. oxidizing 2,6-dialkylnaphthalene to form 2,6-naphthalene-dicarboxylic acid; and

B. condensing said 2,6-naphthalene-dicarboxylic acid with a diol selected from the group consisting of ethylene glycol and butanediol to form a polyethylenenaphthalate polymer or polybutylenenaphthalate polymer wherein said 2,6-dialkylnaphthalene is produced by a process comprising the following steps:

I. separating a feedstock into naphthalene, monoalkylnaphthalene, and dialkylnaphthalene fractions;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthlene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

III. alkylating said monoalkylnaphthalene fraction of step I with an alkylating agent to produce dialkylnaphthalene;

IV. transalkylating said naphthalene fraction of step I and said second dialkylnaphthalene fraction produced in step II, to produce monoalkylnaphthalene, and isomers of dialkylnaphthalene;

wherein said monoalkylnaphthalene fraction produced in step I is cracked before step III, or in step III, or after step III.

21. (Previously Presented) A process for preparing a polyethylene naphthalate polymer or polybutylenenaphthalate polymer comprising;

A. oxidizing 2,6-dialkylnaphthalene to form 2,6-naphthalene-dicarboxylic acid; and

B. esterifying 2,6-naphthalene-dicarboxylic acid with methanol to form dimethyl-2,6-naphthalene-dicarboxylate; and

C. condensing said dimethyl-2,6-naphthalene-dicarboxylate with diol selected from the group consisting of ethylene glycol and butanediol to form a polyethylenenaphthalate polymer or polybutylenenaphthalate polymer

wherein said 2,6-dialkylnaphthalene is produced by a process comprising the following steps:

I. separating a feedstock into naphthalene, monoalkylnaphthalene, and dialkylnaphthalene fractions;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthlene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkynaphthalene fraction;

III. alkylating said monoalkylnaphthalene fraction of step I with an alkylating agent to produce dialkylnaphthalene;

IV. transalkylating said naphthalene fraction of step I and said second dialkylnaphthalene fraction produced in step II, to produce monoalkylnaphthalene, and isomers of dialkylnaphthalene;

wherein said monoalkylnaphthalene fraction produced in step I is cracked before step III, or in step III, or after step III.

22. (Previously Presented) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into a fraction comprising naphthalene and monoalkylnaphthalene and a fraction comprising dialkylnaphthalene;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

III. dealkylating said naphthalene and monoalkylnaphthalene fraction of step I and said second dialkylnaphthalene fraction produced in step II;

IV. separating a naphthalene and monoalkylnaphthalene fraction from said dealkylation product of step III;

V. alkylating said naphthalene and monoalkylnaphthalene fraction of step IV; and

VI. recycling a product from step V to step I.

23. (Previously Presented) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into a fraction comprising naphthalene and monoalkylnaphthalene, a fraction comprising dialkylnaphthalene and a fraction lean in dialkylnaphthalene;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

IIa. isomerizing said fraction lean in dialkylnaphthalene;

IIb. separating the isomerization product of step IIa into a fraction comprising dialkylnaphthalene and a fraction lean in dialkylnaphthalene;

IIc. feeding said fraction comprising dialkylnaphthalene of step IIb to step II;

III. dealkylating said naphthalene and monoalkylnaphthalene fraction of step I, said second dialkylnaphthalene fraction produced in step II and a fraction lean in dialkylnaphthalene from step IIb;

IV. separating a naphthalene and monoalkylnaphthalene fraction from said dealkylation of step III;

V. alkylating said naphthalene and monoalkylnaphthalene fraction of step IV; and

VI. recycling a product from step V to step I.

24. (Previously Presented) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into a fraction comprising naphthalene, a fraction comprising monoalkylnaphthalene, a fraction comprising dialkylnaphthalene and a fraction comprising remaining products;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

IIa. dealkylating said second dialkylnaphthalene fraction produced in step II and recycling the product of dealkylation to step I;

III. dealkylating said fraction comprising remaining products of step I and recycling a product of dealkylation to step I;

IV. alkylating said fractions comprising naphthalene and comprising monoalkylnaphthalene of step I.

25. (Previously Presented) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into a fraction comprising naphthalene, a fraction comprising monoalkylnaphthalene and a fraction comprising dialkylnaphthalene;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

III. dealkylating said second dialkylnaphthalene fraction produced in step II;

IIIa. recycling the product of step III to step I; and

IV. alkylating said fractions comprising naphthalene and comprising monoalkylnaphthalene of step I.

26. (Previously Presented) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into a fraction comprising naphthalene, a fraction comprising monoalkylnaphthalene, a fraction comprising dialkylnaphthalene and a fraction lean in dialkylnaphthalene;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

IIa. isomerizing said fraction lean in dialkylnaphthalene of step I;

IIb. separating the isomerization product of step IIa into a fraction comprising dialkylnaphthalene and a fraction lean in dialkylnaphthalene;

IIc. recycling a dialkylnaphthalene fraction of step IIb to step II;

III. dealkylating said second dialkylnaphthalene fraction produced in step II and a fraction lean in dialkylnaphthalene of step IIb;

IV. alkylating said fractions comprising naphthalene and comprising monoalkylnaphthalene of step I; and

V. recycling a product from step III to step I.

27. (Previously Presented) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock, in distillation towers, into a fraction comprising 2,6-dimethylnaphthalene, a fraction comprising 1,6-dimethylnaphthalene and a fraction comprising a remainder;

II. purifying 2,6-dialkylnaphthalene from said 2,6-dimethylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

IIa. isomerizing said 1,6-dimethylnaphthalene fraction of step I;

IIb. separating the isomerization product of step IIa into a fraction comprising 2,6-dimethylnaphthalene and a fraction comprising a remainder;

IIc. feeding said fraction comprising 2,6-dimethylnaphthalene of step IIb to step II;

III. dealkylating said fraction comprising a remainder of step I, said second dialkylnaphthalene fraction produced in step II, and a fraction comprising a remainder of step IIb;

IV. separating a naphthalene and methylnaphthalene fraction from said dealkylation of step III;

V. alkylating said naphthalene and methylnaphthalene fraction of step IV; and

VI. recycling a product from step V to step I.

28. (Previously Presented) A process for preparing a polyerster resin comprising:

producing 2,6-dialkylnaphthalene from a feedstock by the process of Claim 22;

oxidizing the 2,6-dialkylnaphthalene to form 2,6-naphthalenedicarboxylic acid; and

manufacturing the polyester resin from the 2,6-naphthalene-dicarboxylic acid.

29. (Previously Presented) A process for preparing a polyester resin comprising:

producing 2,6-dialkylnaphthalene from a feedstock by the process of Claim 22;

oxidizing the 2,6-dialkylnaphthalene to form 2,6-naphthalenedicarboxylic acid;

esterifying the 2,6-naphthalenedicarboxylic acid with methanol to form a 2,6-naphthalenedicarboxylate; and

manufacturing the polyester resin from the 2,6-naphthalenedicarboxylate.

30. (Previously Presented) A process for preparing a polyester resin comprising:

producing 2,6-dialkylnaphthalene from a feedstock by the process of Claim 24;

oxidizing the 2,6-dialkylnaphthalene to form 2,6-naphthalenedicarboxylic acid; and

manufacturing the polyester resin from the 2,6-naphthalene-dicarboxylic acid.

31. (Previously Presented) A process for preparing a polyester resin comprising:

producing 2,6-dialkylnaphthalene from a feedstock by the process of Claim 24;

oxidizing the 2,6-dialkylnaphthalene to form 2,6-naphthalenedicarboxylic acid;

esterifying the 2,6-naphthalenedicarboxylic acid with methanol to form a 2,6-naphthalenedicarboxylate; and

manufacturing the polyester resin from the 2,6-naphthalenedicarboxylate.